

SURIN, S. P.

KAZHDAN, I. M., Inzh. i, SURIN, S. P., Kand. Tekhn. Nauk., ZAPOL'NOV, D. P.,  
Mekhank.

Peningradskoye Otdeleniye Vsesoyuznogo Nauchno-Issledovatel'skogo Instituta  
Ministerstva Stroitel'Stva Predpriyatiy Mashinostroyeniya

Abtomaticheski Deystvuyushchiy Pribor dlya Udaleniya Vozdukha IZ Sistem  
Tsentral'nogo vodyanogo Otoplenniya

Page 49

SO: Collection of Annotations of Scientific Research Work on Construction, completed  
in 1950. Moscow, 1951

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CIA-RDP86-00513R001653930003-1

SURIN, S.S.

The replanning problem. Metod. vych. no.2:91-94 '63.  
(MIRA 18:11)

APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653930003-1"

38837  
S/199/62/003/004/001/002  
B112/B104

16.12.60

AUTHORS:

Gavurin, M. K., Rubinshteyn, G. Sh., and Surin, S. S.

TITLE:

Optimum use of production means employing several modes of operation (generalized transportation problem)

PERIODICAL: Sibirski<sup>y</sup> matematicheskiy zhurnal, v. 3, no. 4, 1962, 481-499

TEXT: The case of  $m$  different production means and  $n$  modes of operation is considered. The productivity  $a_{ij}$  and the operating costs  $b_{ij}$  of the  $i$ -th production means for the  $j$ -th mode of operation are assumed to be known. The following fundamental problem of production planning is studied: the matrices

$$A = (a_{ij})_{\substack{i=1, \dots, m \\ j=1, \dots, n}}, \quad B = (b_{ij})_{\substack{i=1, \dots, m \\ j=1, \dots, n}}$$

and the numbers  $k_1, k_2, \dots, k_n$  are given where  $a_{ij} \geq 0, b_{ij} > 0, k_j > 0$  ( $i = 1, \dots, m; j = 1, \dots, n$ ). A matrix (planning)

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Optimum use of production ...

- ( $\alpha$ )  $y_i > 0$  ( $i = 1, \dots, m$ );  
( $\beta$ )  $a_{ij}y_j \leq y_i + b_{ij}$  ( $i = 1, \dots, m$ ;  $j = 1, \dots, n$ );  
( $\gamma$ )  $a_{ij}y_j = y_i + b_{ij}$ , for  $x_{ij} > 0$  ( $i = 1, \dots, m$ ;  $j = 1, \dots, n$ );  
( $\delta$ )  $y_i = 0$  for  $x_{i0} = 1 - \sum_{j=1}^n x_{ij} > 0$  ( $i = 1, \dots, m$ )

is necessary and sufficient. A system of numbers  $y$ , which satisfies the conditions ( $\gamma$ ) and ( $\delta$ ) is called a system of potentials for the planning  $x$ . The following method of potentials was used to solve the planning problem: An initial planning  $x$  which fulfills what are called the reliability conditions ( $1$ ), ( $2$ ), ( $3$ ), is determined by certain recurrent relations between the potentials  $y$ . If, in addition, this planning satisfies the conditions ( $\alpha$ ) and ( $\beta$ ), it is optimal and the solution process is terminated; otherwise, a new admissible planning

$$x' = (x'_{ij})_{\substack{i=1, \dots, m \\ j=1, \dots, n}}$$

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B112/B104

Optimum use of production ...

with the property  $\mu(x') < \mu(x)$  is constructed the potentials of which are again clearly determined.

SUBMITTED: July 29, 1961

Card 4/4

450 -66 ACC NR: AR6017347

(A)

SOURCE CODE: UR/0044/66/000/001/V043/V043

AUTHOR: Surin, S. S.

REF SOURCE: Sb. Ekon.-matem. metody. Vyp. 2. M., Nauka, 1965, 291-303

TITLE: A dynamic transportation problem and some of its generalizations

SOURCE: Ref. zh. Matematika, Abs. 1V267

TOPIC TAGS: linear programming, economic organization

TRANSLATION: A model is studied of the development in time of the production and consumption of a uniform product (the time is discrete). The production and consumption are concentrated at separate points connected by a transportation network. The consumption is given at each point at each moment of time. The overall demand for the product does not vanish in the course of time. The production at each production point is bounded from below and does not vanish in time. The overall quantity of the product is always equal to the overall demand for any given moment of time. It is required to plan the production (taking into account necessary expansion) and distribution so as to minimize the costs (all costs are regarded as linear functions of the volume of production and arbitrary functions of time). For the corresponding problem in linear programming, an algorithm is given which represents a generalization of the potential method. Several extensions of the given problem are studied, including the dynamic generalized transportation problem. Yu. Finkel'shteyn

SUB CODE: 12/  
Card 1/17

SEARCH DATE: none

UDC: 512.25/.26+519.3:330.115

36

B

SURIN, Vladimir

Problems of amputee prosthesis in amputation for obliterating vascular diseases. Acta chir. orthop. traum. cech. 26 no.2:123-127 Mar 59.

1. Statni ustanovitelsky institut pro rehabilitaci a vlasimi. Ortopedicko-trauma tologické oddeleni, prednosta MUDr. Vladimír Surin.

(VASCULAR DISEASES, PERIPHERAL, surg.  
amputation for obliterating dis., prosth. (Cz))

(ARTIFICIAL LIMB  
in amputation for obliterating vasc. dis. (Cz))

MALEK, P.; KOLC, J.; BEIAN, A.; SURIN, V.

Roentgenographic investigation of surface and deep lymphatic systems of  
the lower extremities. Cas. lek. cesk. 98 no.8:231-235 20 Feb 59.

1. Ustav klinické a experimentální chirurgie, Praha, přednosta doc. dr.  
B. Spacek. Statní ustanovisko rehabilitační, Kladruby u Vlašimi, P. M., Praha-  
Krc, Budejovická 800.

(LYMPHATIC SYSTEM, radiography,

leg (Cx))

(LEG anat. & histol.

lymphatic system, x-ray (Cx))

ROMANCYA, A.; SURIN, V.

Export of articles produced by the Soviet medical industry.  
Vnesh.torg. 30 no.6:33 '60. (MIRA 13:6)  
(Medical supplies) (Russia—Commerce)

SURIN, Vladimir

Pathological ossification and lesions of the spinal cord. Acta chir.  
orthop. trauma. Cech. 28 no.1:9-13 F '61.

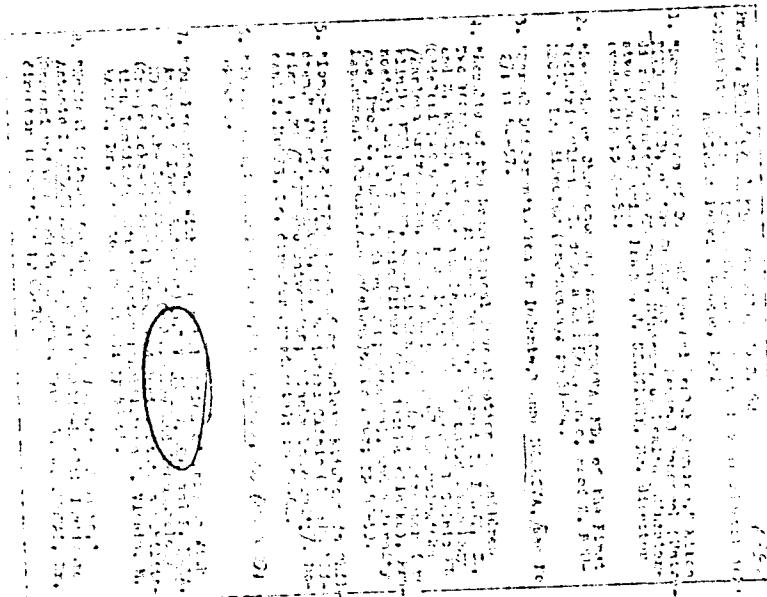
1. Statni ustanov rehabilitacni u Vlasimi, reditel MUDr. M. Balcar,  
ortopedicko-traumatol. odd, predn. MUDr. V. Surin.

(PARAPLEGIS compl) (OSSIFICATION etiol)

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SURIN, V.



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CIA-RDP86-00513R001653930003-1"

SURIN, V.; BALZAROVA, J.; SRDECNY, V.

Our experiences with rehabilitation in wounds of the brachial plexus. Cesk. neurol. 26 no.6:417-421 N°63.

1. Statni ustav rehabilitacni v Kladrubech, reditel MUDr.  
M.Balzar.

SURIN, V.; KOLC, J.

Penetration of chlortetracycline into joints changed by  
inflammation. Rozhl. chir. 42 no.3:192-195 Mr '63.

1. Chirurgicke oddeleni OUNZ v Benesove, vedouci MUDr. V.  
Faltyn. Ustav klinicke a experimentalni chirurgie v Praze,  
reditel prof. dr. B. Spacek, DrSc.

(CHLORTETRACYCLINE) (STAPH INFECTIONS)

(ARTHRITIS) (HYALURONIDASE)

(EXUDATES AND TRANSUDATES)

SURIN, V., MUDr., CSc.; KOLC, J.

Use of tetracycline antibiotics in the investigation of various pathophysiological processes in bony tissue. Rozhl. chir. 44 no. 5:315-320 May'65.

1. Ustav klinické a experimentální chirurgie v Praze (ředitel: prof. dr. E. Špaček, DrSc) Ortopedické oddělení Obvodního ustanovu Národního zdraví v Benešově (ordinar: MUDr. V. Surin, CSc.).

SHEVIKIN, G.Yu., kand.tekhn.nauk; SUKHORUCHKIN, I.A., kand.tekhn.nauk  
GORBUNOVA, Ye.N., mladshiy nauchnyy sotrudnik; SURIN, V.A.,  
mladshiy nauchnyy sotrudnik

Automatic distribution of water by closed stationary conduits.  
Gidr.i nel. 12 no.7sl-12 J1 '60. (MIRA 13:7)  
(Irrigation canals and flumes)

SHEYINKIN, G.Yu., kand.tekhn.nauk; GORBUNOVA, Ye.N., mladskiy nauchnyy  
sotrudnik; SURIN, V.A., mladshiy nauchnyy sotrudnik

Automation of irrigation by means of a combined network of  
closed stationary and flexible portable polyethylene pipes.  
Izv. TSKHA no.3:109-124 '61. (MIRA 14:9)  
(Irrigation)

SHEYNKO, G.Yu., kand.tekhn.nauk; GORBUNOVA, Ye.N., mladshiy nauchnyy  
sotrudnik; SURIN, V.A., mladshiy nauchnyy sotrudnik

Combined irrigation system consisting of closed stationary and  
mobile flexible polyethylene pipelines. Gidr. i mel. 13 no.6:  
13-24 Je '61. (MIRA 14:6)  
(Irrigation)

SHEYINKIN, G.Yu., kand.tekhn.nauk; SURIN, V.A., inzh.

Experiments in the use of flexible polyethylene pipelines in irrigation.  
Gidr. i mel. 14 no.7:3-13 J1 '62. (MIRA 17:2)

1. Moskovskaya ordena Lenina sel'skokhozyaystvennaya akademiya imeni  
Timiryazeva.

СИДРИН, Г. Д., канд. техн. наук, АГИМ, УзАи, канд. техн. наук

Controlling the sediments in the pipelines of an irrigation network.  
Gidr, i msl. 17 no.1, 7-17 Ja '65. (MIRA 18:4)

1. Moskovskiy gidromeliorativnyy institut.

. SURIN, Vladimir Konstantinovich, inzh.-geolog; KALGANOV, M.I., Laureat Lo-  
ninskoy i Stalinskoy premiy, kand. geologo-mineralog. nauk, red.;  
SOLDATOV, I., otv. za vypusk; NEMYTOV, V., tekhn. red.

[Geology and minerals of Orel Province] Geologicheskoe stroenie i po-  
leznnye iskopaemye Orlovskoi oblasti. Pod red. M.I.Kalganova. Orel,  
Orlovskoe knizhnoe izd-vo, 1960. 162 p. (MIRA 14:12)  
(Orel Province—Geology, Economic)

SURIN, V.M.; POROSENKOV, V.S.

Submucosal lipoma of the sigmoid intestine complicated by invagination.  
(MIRA 15:9)

1. Khirurgicheskoye otdeleniye Romodanovskoy rayonnoy bol'nitsy  
Mordovskoy ASSR.  
(COLON (ANATOMY)--TUMORS) (INTESTINES--INTUSSUSCEPTION)

BOLDIN, K.M. (Yaroslavl'); DROZDOVA, Z.S.; LEVIN, R.I.; VAYSMAN, L.A.  
(Kuybyshev-obl.); PODOSINOVSKIY, V.V.(Kazan'); SAYFULLINA, Kh.M.  
(Kazan'); BUSYLIN, N.V.(Kazan'); RAZUMOVSKIY, Yu.K.(Leninogorsk);  
GEL'FER, G.A., dotsent (Gor'kiy); MAMISH, M.G.(Kazan'); RAFALOVICH,  
M.B., dotsent; MEL'NICHUK, S.P., kand.med.nauk; KRAPIVIN, B.V.;  
STAROVEROV, A.T. (Saratov); SURIN, V.M.; PORESENKOV, V.S.(Romodanovo,  
Mordovskoy ASSR); ANDROSOV, M.D.(Moskva); ZARIPOV, Z.A.(Urussu,  
Tatarskoy ASSR); MURAV'YEV, M.F.(Izhevsk); KUZ'MIN, V.I.(Batyrevo,  
Chuvashskoy ASSR); SITDYKOV, E.N.(Kazan'); YUDIN, Ya.B.(Novokuznetsk)

Short reports. Kaz.med.zhur. no.4:81-91 Jl-Ag '62. (MIRA 15:8)  
(MEDICINE--ABSTRACTS)

L. GORELICHT MFT(m)  
ACC NR: AF/002768

SOURCE CODE: UR/0089/66/021/002/0132/0134

AUTHOR: Kazankevich, A. T.; Surin, V. M.

ORG: none

TITLE: Application of autoradiography for control of irregularity of actinide element layers

SOURCE: Atomnaya energiya, v. 21, no. 2, 1966, 132-134

TOPIC TAGS: autoradiography, electrochemistry

ABSTRACT: Autoradiographic data<sup>233</sup> on irregularities of  $\alpha$ -active,  $1 \times 10^3$  to  $4.1 \times 10^6$  fission min  $\text{cm}^{-3}$ , layers of  $^{238}\text{U}$ ,  $^{238}\text{Pu}$ ,  $^{241}\text{Am}$  on plane metal backings prepared by electrochemical and drop methods are tabulated. It is shown that the electrochemical method produced a more uniformly distributed coating in comparison to the drop evaporation method. Orig. art. has: 5 figures and 1 table. [NA]

SUB CODE: 07 / SUBM DATE: 25Apr66 / ORIG REF: 001 / OTH REF: 004

Card 1/1 nst

UDC: 539.172.12: 539.17.015  
0925 1646

PETROV, M.A.; NORMAN, E.A.; VOLODIN, A.P.; DEMISOV, V.A.; KOCHKONOGOV, V.P.; BEGAM, L.G.; BARANOV, M.A.; TAVLINOV, V.K.; YENIKEYEV, G.Sh.; BARANOVA, A.I.; KUDRYAVTSEV, G.P.; MALYAVSKIY, B.K.; CHEGODAYEV, N.N.; SURIN, V.S.; GONIKBERG, I.V., retsentent; ENGEL'KE, V.A., retsentent; KHRAPKOV, V.A., retsentent; AL'PERT, G.A., retsentent; ALEKSEYEV, B.N., retsentent; SKLYAROV, A.A., retsentent ALEKSEYEV, Ye.P., retsentent

[Railroad surveying; reference and methodological handbook] Izyskania zheleznykh dorog; spravochnoe i metodicheskoe rukovodstvo. Moskva, Transport, 1964. 495 p.  
(MIRA 18:1)

1. Babushkin. Vsesoyuznyy nauchno-issledovatel'skiy institut transportnogo stroitel'stva. 2. Leningradskiy gosudarstvennyy proyektno-izyskatele'skiy institut Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stu SSSR (for Gonikberg, Engel'ke, Khrapkov).
3. Sibirskiy gosudarstvennyy proyektno-izyskatele'skiy institut Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stu SSSR (for Alekseyev, YeP.).
4. Moskovskiy gosudarstvennyy proyektno-izyskatele'skiy institut Gosudarstvennogo proizvodstvennogo komiteta po transportnomu stroitel'stu SSSR (for Al'pert).

SURIN, V.V., gornyy inzh.; ORLOV, V.S., gornyy inzh.; SHCHELKANOV, V.A., kand.tekh. nauk

Increasing the economic efficiency of underground mining at the  
"IUzhnaya" Mine. Gor. zhur. no.6:22-23 Je '64. (MIRA 17:11)

1. Gornoblagodatskoye rudoopravleniye (for Surin, Orlov). 2. Institut  
gornogo dela Ural'skogo filiala AN SSSR (for Shchelkanov).

L 21543-66 EMT(1)/EMT(a)/I/EP(t)  
ACC NR: AP6008750

SOURCE CODE: UR/0386/66/003/006/0250/0252

AUTHOR: Monosov, YA. A.; Surin, V. V.; Tulaykova, A. A.

ORG: Institute of Radio Engineering and Electronics, Academy of Sciences, SSSR (Institut radiotekhniki i elektroniki Akademii nauk SSSR)

TITLE: Investigation of high-frequency oscillations in single-crystal magnesium man-  
ganese ferrite

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Pis'ma v redaktsiyu.  
Prilozheniya, v. 3, no. 6, 1966, 250-252

TOPIC TAGS: ferrite, magnesium compound, nonlinear effect, single crystal, ferromagnetic resonance, spin wave spectrum

ABSTRACT: To show that the oscillations accompanying nonlinear ferromagnetic-resonance processes in yttrium iron garnets (YIG), previously reported by one of the authors (Monosov, with A. V. Vashkovskiy, IEE Conf. Publ. no. 13, 63, 1965), should be observed in all ferrites, the authors have experimentally investigated the high-frequency oscillations in single-crystal MgMn ferrite at 9300 Mc, with the microwave field transversely polarized and the constant magnetic field ranging from 700 to 3000 oe. The sample was placed in a resonator, and was close in shape to a plate 0.5 mm thick. The high-frequency oscillations were detected with a spectrum analyzer using the reflected microwave power. The tests show that: (1) The oscillations have a threshold, at which the pump power is double that of YIG. The dependence of the amplitude on the

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L 21563-66

ACC NR: AP6008750

constant magnetic field is reminiscent of the dependence of the additional-absorption curve. The observation of the oscillations can be used to determine certain characteristics of the nonlinear resonance, such as the width of the spin-wave resonance curve. (2) The amplitude of the oscillations saturates with increasing pump power, and its value is 20--30 dB lower than in YIG. (3) The oscillation spectrum extends over a certain frequency region. As the pump threshold increases the frequency region shifts from 0.5--0.9 to 1.8--2.2 Mc. The threshold pump power increases with increasing sample dimensions, owing to the deterioration of the thermal conditions in the sample. The pump threshold for different samples may therefore differ from those obtained by a factor 1.5--2. It is also observed that the intensity of the hf oscillations depends markedly on the sample orientation. Orig. art. has: 3 figures.

SUB CODE: 20/ SUBM DATE: 03Feb66/ ORIG REF: 001/ OTH REF: 002

Card 2/2 JV

SURIN, Ye.I., inzh.

Organizing the maintenance and repair of power engineering and technological equipment. Bum.prom. 35 no.7:18 Je '60. (MIRA 13:8)  
(Paper industry--Equipment and supplies)

BROVMAN, M.Ya., inzh.; MUL'NIKOV, A.F., inzh.; SURIK, Ye.V., inzh.

New types of metal-cutting tools. Mashinostroyitel' no.12:  
19-20 D '59. (MIRA 13:3)  
(Metal-cutting tools)

DOBROSKOK, I.I., inzh.; BROVMAN, M.Ya., inzh.; KUR'YANOV, L.P., inzh.;  
SURIN, Ye.V., inzh.

Design of lightweight steel-pouring ladles. Stal' 20 no.9:806-807  
S '69. (MIEA 13:9)

1. Yuzho-Ural'skiy mashinostroitel'nyy zavod.  
(Open-hearth furnaces—Equipment and supplies)

S/170/61/004/012/005/011  
B104/B138

AUTHORS: Brovman, M. Ya., Surin, Ye. V.

TITLE: Approximate solution to equations of the parabolic type,  
which is applicable to heat-conduction problems

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 4, no. 12, 1961, 75 - 82

TEXT: The solution of the one-dimensional heat-conduction equation yields a function  $T(x,t)$  which can be approximated with the aid of the polynomial  $T_n(x,t) = \sum_{m=0}^n f_m(t)x^m$ .  $f_m(t)$  can be chosen so that  $T_n(x,t)$  and  $T(x,t)$  will coincide in  $n$  points. The boundary conditions provide two differential equations of  $n$ -th order for the determination of  $f_0(t)$  and  $f_1(t)$ .

2n constants appear in the solution of these equations. In general, the initial conditions cannot be satisfied exactly; however, the constants can be chosen so that the values of  $T_n(x,0)$  in 2n points will agree with those of  $T(x,0)$ . In this way, approximate solutions to the one-dimensional heat conduction equation can be obtained and their accuracy will increase

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29:15  
S/170/61/004/012/005/011

Approximate solution to equations of the ... B104/B136

with n. Solutions to the problem concerned are obtained in the form of the series

$$T_n(x, t) = f_0(t) + xf_1(t) + \frac{x^2}{2a} \frac{df_0(t)}{dt} + \frac{x^3}{6a} \frac{df_1(t)}{dt} + \dots$$

Or

$$T_n(x, t) = f_0(t) + \sum_{m=1}^n \frac{x^{2m}}{a^m (2m)!} \frac{d^m f_0(t)}{dt^m} + \\ + x \left[ f_1(t) + \sum_{m=1}^n \frac{x^{2m}}{a^m (2m+1)!} \frac{d^m f_1(t)}{dt^m} \right]. \quad (3).$$

The cooling of a plate with a thickness  $2d$ , for which the boundary condition  $\partial T / \partial x = -\frac{\alpha}{\lambda} T$  is valid ( $x = \pm d$ ), is treated, as also the cooling of a cylinder with radius  $R$ , for which the boundary condition  $\partial T / \partial r = -\alpha T / \lambda$  is valid ( $r = R$ ). The cooling of a plate is calculated by a numerical example. Results obtained in first and second approximations are presented in Figs. 1 and 2. There are 3 figures and 4 Soviet refer-

Card 2/3

Approximate solution to equations of the ...

S/170/61/004/012/005/011  
B104/B138

ences.

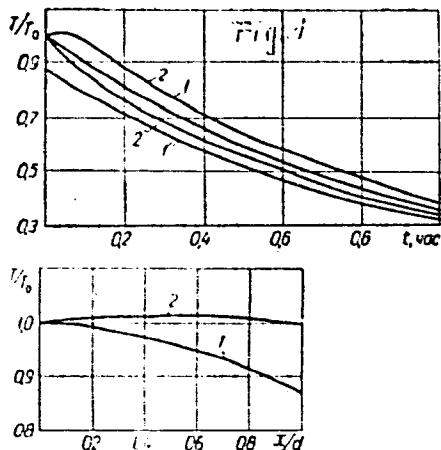
ASSOCIATION: Yuzhno-Ural'skiy mashinostroitel'nyy zavod, g. Orsk  
(South Ural Machine-building Factory, Orsk)

SUBMITTED: July 26, 1961

Fig. 1. Temperature variation of the plate. Legend: (1) and (2) temperatures at  $x = 0$ ; (1') and (2') temperatures at  $x = d$ . (1) and (1') are first approximations, (2) and (2') are second approximations.

Fig. 2. Initial temperature distribution in the plate. Legend: (1) first approximation; (2) second approximation.

Card 3/3



DOBROSKOK, I.I.; SURIN, Ye.V.; BROVMAN, M.Ya.; MIKHAYLOV, G.M.;  
KRULEVETSKIY, S.A. Prinimali uchastiye: ASFANDIYAROV, R.F.;  
BELOV, Ye.M.; IVANOV, V.I.; MARKOV, V.I.; SOLOV'YEV, Yu.P.;  
PIMENOV, F.A.; TUROMSHEV, A.F.; KHVES'KO, V.A.; NIKITSKIY, N.V.

Investigating the power parameters of a continuous steel casting  
plant. Stal' 22 no.3:223-225 Mr '62. (MIRA 15:3)

1. Yuzhnoural'skiy mashinostroitel'nyy zavod (for Asfandiyarov, Belov,  
Ivanov, Markov, Solov'yev). 2. Novolipetskiy metallurgicheskiy zavod  
(for Pimenov, Turomshev, Khves'ko). 3. TSentral'nyy nauchno-issledovatel'-  
skiy institut chernoy metallurgii (for Nikitskiy).

(Continuous casting--Equipment and supplies)

BROVMAN, M. Ya.; SURIN, Ye. V.

Method of determination of the heat transfer coefficient.  
Zav. lab. 28 no.12:1470-1472 '62. (MIRA 16:1)

(Heat—Transmission)

BROVMAN, M.Ya.; SURIN, Ye.V.

Calculation of thermal stresses in an ingot during crystallization.  
Inzh.-fiz. zhur. 6 no.5:106-113 My '63. (MIRA 16:5)

1. Yuzhno-ural'skiy mashinostroitel'nyy zavod, Orsk.  
(Thermal stresses) (Crystallization)

SURIN, Yu.V.

Intravenous use of promedol in the surgical clinic. Trudy l-go  
MMI 3:143-147 '57. (MIRA 14:5)  
(PIPERIDINE) (ANESTHESIA)

BUKOVSKY, G.I.; MIKHAILOV, V.A.; MALEVICH, A.M. (Moskva, D-103, ul.  
Salam Adilin, 76, korpus 12, kr.21); SHALIN, Yu.V.

Prevention of muscular pain following bronchoscopy under  
anesthesia with depolarizing muscle relaxants. Vest. khir.  
'92 no.4:167-171 Ap '94 (VME 18:1)

L. Ic fakul'tetskoy khirurgicheskoy kliniki (zav. - prof.  
L.S. Zherev) sanitarno-tekhnicheskogo fakul'teta i-ge  
Meditsinskogo instituta imeni I.M. Sechenova.

SURIN-SHUR, B.A.

Gas requirements of industrial enterprises. Gas. prom. 4 no. 4:37-39  
Ap. '59. . . . .  
(Gas)

SURIN-SHUR, B.A.

Gas supply and distribution to the cities of the Lithuanian S.S.R.  
Gaz. prom. 4 no.12:24-26 D '59. (MIRA 13:3)  
(Lithuania—Gas distribution)

1970-1971, 1971, 1972

Collection of the Omsk Provincial Museum of local flora.  
Institute of Geography, No. 110-131-15.  
(MIA, 12:7)  
(Omsk--Narym)

MOROZOVA, M.M., studentka VI kursa; SURINA, M.N., studentka V kursa

Tubercle of the jugular vein resulting in a very acute form of  
tuberculous sepsis. Probl.tub. 38 no.6:51-54 '60.  
(MIRA 13:11)

1. Iz kafedry patologicheskoy anatomi (zav. - chlen-korrespondent  
AMN SSSR prof. A.I. Strukov) I Moskovskogo ordena Lenina meditsin-  
skogo instituta imeni I.M. Sechenova.  
(SEPTICEMIA) (JUGULAR VEIN--TUBERCULOSIS)

USSR .

✓Salt content of peat water of the top and the bottom bogs  
and its influence upon the properties of peats. N. G. Titov  
and N. L. Surina. *Trudy Inst. Goryach. Elektrosvyazk.*,  
44-1. Nizh. S.S.R., 2, 257-77(1950).--Differences in the  
water-soluble peats of top and bottom bogs are caused by  
differences in the salt content of these peat bog waters.  
The org. material of the bottom deposits of peat consists  
principally of calcium humates with a small amt. of synthetic  
humic acids. The H content is also low. The primary tan  
yellow is much lower than from the top peats. W.M.S.

"APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653930003-1

APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653930003-1"

YEGOROV, L.S.; SURINA, N.P.

First find of carbonatite bodies in sedimentary carbonate rocks.  
Inform. biul. NIIGA no.2:31-34 '58. (MIRA 12:10)  
(Maymecha Valley--Carbonates (Geology))

YEGOROV, L.S.; SURINA, N.P.

Carbonatites in the Changit intrusion region of the northern  
Siberian Platform. Trudy NIIGA no.125:160-178 '61. (MIRA 16:7)  
(Maymacha Valley--Carbonatite)  
(Kotuy Valley--Carbonatite)

MAKHLAYEV, L.V.; SURINA, N.P.

Maymecha-Kotuy area of ultrabasic and alkali rocks, a new  
region of kimberlite igneous activity. Dokl. AN SSSR 153  
no.5:1172-1174 D '63. (MIRA 17:1)

1. Nauchno-issledovatel'skiy institut geologii Arktiki i  
Krasnoyarskaya kompleksnaya laboratoriya Instituta geologii  
i geofiziki Sibirskego otdeleniya AN SSSR. Predstavлено  
akademikom V.S. Sobolevym.

S/137/52/000/010/016/028  
A052/A101

AUTHORS: Borcsányi, Vojtech, Surina, Tibor, Komora, Ladislav

TITLE: Bimetal Cu-Al products with a diffusion intermediate layer

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 10, 1962, 90, abstract 10595.  
(Czech. pat., no. 100321, September 15, 1961)

TEXT: A connection of Al and Cu wires by means of electric welding is rather difficult, since these metals have different properties. Al yields to a plastic deformation at a low pressure and oxidizes readily, which increases the electric resistance of wires and leads to their heating. A method is suggested of connecting Al and Cu, when producing electric wires of various configurations, by means of an intermediate layer of a ternary alloy Al-Cu-Ag or Al-Cu-Zn. The intermediate layer forms as a result of a diffusion annealing during 4 - 6 hours at a temperature lower than the melting point of eutectics of ternary alloys. Al is pressed to the surface of a Cu-part of the product covered with the 3rd metal.

N. Ivenskaya

[Abstracter's note: Complete translation]

Card 1/1

SURINA, V.

Application of electronic systems in industrial design.  
Tekh. est. 2 no.9:18-19 S '65. (MIRA 18:11)

KUSHNIR, I.M.; DOLGOPYATOVA, M.N.; SABO, V.Ye.; SURINA, V.F.

Subcutaneous emphysema as a complication in childbirth. Vop.  
okh.mat.i det. 8 no.3:82-83 Mr '63. (MIRA 16:5)

1. Iz vrachebno-sanitarnoy sluzhby Zabaykal'skoy zheleznoy  
dorogi (nachal'nik V.G. Yegiazaryan, glavnnyy akusher-ginekolog  
I.M. Kushnir).

(EMPHYSEMA) (LABOR, COMPLICATED)

SURINA, V. N.

PHASE I BOOK EXPLOITATION

350

Vedrov, V. S., Romanov, G. L., and Surina, V. N.

Samolet kak ob'yekt regulirovaniya; strukturnyye skhemy uravneniy  
vozmushchennogo dvizheniya samoleta (The Control of Aircraft;  
Block Diagrams of Equations for Disturbed Motions of an Air-  
craft) Moscow, Oborongiz, 1957. 42 p. 1,020 copies printed.

Sponsoring Agency: USSR Ministerstvo aviatcionnoy promyshlennosti  
(Its Trudy, Nr 74)

Ed.: Ignat'yeva, A. V.; Tech Ed.: Lebedeva, L. A.

PURPOSE: Presentation of results of scientific research.

Card 1/5

The Control of Aircraft (cont.)

350

yield approximate transfer functions for rapid angular motions about the center of gravity, these methods readily permit obtaining approximate expressions for transfer functions for the slow motions associated with displacements of the center of gravity. The report contains 7 tables and 15 figures. There are 15 bibliographic references, 4 Russian, 5 American, 1 British, 4 French, and 1 Belgian. The authors express their gratitude for valuable advice to M.A. Tayts, Doctor of Technical Sciences, and Ye.N. Arsen'yev, Engineer.

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SOV/124-58-7-7500

Translation from: Referativnyy zhurnal, Mekhanika, 1958, Nr 7, p 26 (USSR)

AUTHORS: Vedrov, V.S., Romanov, L.G., Surina, V.N.

TITLE: The Aircraft as an Object of Control (Analog Circuits for the Equations of Perturbed Aircraft Motion) [Samolet kak ob'yekt regulirovaniya (strukturnyye skhemy uravneniy vozmushchennogo dvizheniya samoleta) ]

PERIODICAL: Tr. M-va aviats. prom-sti SSSR, 1957, Nr 74, 44 pages ill.

ABSTRACT: The methods of the theory of automatic control are used to investigate an instance of perturbed aircraft motion that is not far removed from the aircraft's normal steady-state motion prior to perturbation. Linearized equations for the perturbed motion are examined which are in fact systems of linearized fourth-order equations with constant coefficients. In addition, an investigation is made of nonhomogeneous equations the right-hand sides of which allow for possible small deflections of wing and tail control surfaces caused by the pilot. The flight of an aircraft without an automatic pilot is analyzed. The paper, which consists of two sections, deals in the first section with the longitudinal perturbations of an aircraft's motion, in the

Card 1/3

SOV/124-58-7-7500

The Aircraft as an Object of Control (cont.)

second section with the lateral perturbations. Each section is comprised of three paragraphs. The first paragraph of each section shows how analog circuits for the equations of a perturbed motion (longitudinal or lateral) can be set up. It turns out that some of the links of the analog circuit form a closed "stability contour" (i.e., a contour of stabilization), whereas the remaining links constitute "branches" of the outputs of the various parameters of the motion, or inputs containing the control-surface deflections ("control links"). The analog circuit for the longitudinal motion is so set up that its stability contour includes the variations in speed and angle of attack. The "branches" include the variations in the pitch attitude, the flight altitude, the slope of the flight path, and elevator deflection. In the analog circuit for the lateral motion the stability contour includes the variations in the angle of bank and yawing velocity. One of the "branches" represents the output of the sideslip angle. The second paragraph of either section contains a brief analysis of the characteristics of the individual links. An account is given of the amplitude-frequency and phase-frequency characteristics of the links making up the stabilization contour. They are set up to simulate aerodynamic coefficients that characterize modern subsonic jet aircraft. The relationship of the characteristics of the links to the flying speed and flight altitude is then analyzed. In each of the third paragraphs transfer functions are evolved for the

Card 2/3

SOV/124-58-7-7500

The Aircraft as an Object of Control (cont.)

control of an aircraft with tail control surfaces and ailerons. To simplify analysis of the transfer functions and to enhance clarity, the authors at the end of each section give approximate simplified theories of the transfer functions. These theories are based on the fact that in both the longitudinal and the lateral motion the frequencies of the individual links are widely separated from one another on the frequency scale. In the first section a theory is offered for the short-period high-frequency perturbed motion, followed by a theory of the long-period perturbed motion. In the second section, transfer functions are obtained for three distinct types of perturbed motion, considered separately: a slow spiral motion, a rapid oscillatory motion (with the use of the rudder control only), and a fast rolling motion (with control by the ailerons only).

L.V. Klimenko

1. Aircraft--Control systems    2. Airplanes--Performance    3. Mathematics--Applications  
4. Control systems--Theory

Card 3/3

"APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653930003-1

SOURCE: [redacted]

Tactics of aviation; manual for fliers' clubs of the Society of the Friends of Aviation and Chemical Warfare Defense and Industry. Moskva, TSS Osoavichina SSSR, 1940. 291 p. maps. (55-51774)

UG630.S73

APPROVED FOR RELEASE: 08/26/2000

CIA-RDP86-00513R001653930003-1"

ACC NR: AP6025930

SOURCE CODE: UR/0301/66/012/004/0435/0437

AUTHOR: Surinov, B. P.; Manoylov, S. Ye.; Abramov, E. F.

ORG: Leningrad Chemical-Pharmaceutical Institute, Chair of Biochemistry (Kafedra  
biokhimii Leningradskogo khimiko-farmatsevicheskogo instituta)

TITLE: The use of ion exchange resins for the desalination of proteolytic enzymes

SOURCE: Voprosy meditsinskoy khimii, v. 12, no. 4, 1966, 435-437

TOPIC TAGS: trypsin, proteolytic enzyme, ion exchange resin, enzyme desalination

ABSTRACT: A method for desalinating solutions of proteolytic enzymes (trypsin, chymo trypsin) with ion-exchange resins is described. Various anion and cation exchange resins are used [EDE-10, AN-2FG, SBS-1, KU-5, and KU-2 with 4.8-12% divinylbenzene]. The most favorable combination seemed to be anion exchange resin EDE-10P and cation exchange resin KU-2 with 8% divinylbenzene. These have sufficient stability and are produced commercially. Experiments showed dynamic conditions of demineralization to be the most favorable. An increased release of resins was observed under static conditions. Conclusions were that KU-2 with 8% divinylbenzene sorbs trypsin or chemical trypsin poorly. Anionite EDE-10 has the capacity to absorb some amount of proteins which can be washed away. The loss of protein enzymes by desalinating performed only in resins is 20%. In such a way, ion-exchange of resins can be used successfully for de-salting compounds of proteolytic

Card 1/2

UDC: 615.779.94:577.156-012:661.183.123

ACC NR: APAP6025930

enzymes. This method which is particularly important during purification enzymes,  
avoids long process of dialysis.

SUB CODE: 0620/SUBM DATE: 09Jan65/ ORIG REF: 002/ OTH REF: 003

Card 2/2

SURINOV, N., inzh.

Improvement in working conditions and the level of production.  
Sots.trud 4 no.9:110-113 S'59. (MIRA 13:1)  
(Moscow--Coke industry)

POLOTOV, G.I., kand. tekhn. nauk; KONDAKOV, Ye.A., inzh.;  
SVERDLOV, B.I., inzh., retzenzent; FILINOV, Yu.V.,  
kand. tekhn. nauk, red.

[Design and calculation of industrial furnaces and driers;  
foundry furnaces] Konstruktsiya i raschet zavodskikh pechей  
i sushil; pechi litейных цехов. Moskva, Mashinostroenie,  
1965. 238 p. (MIKA 18:8)

СИРКОВ, Е.П.; МАРКИВ, С.Ye.

Investigation of the activity of proteolytic enzymes with  
the aid of azocasein. Vop.med.khim. 11 no.5:55-58 S-O '65.  
(MIRA 19:1)  
L. Leningradskiy khimiko-farmatsevticheskiy institut. Submitted  
May 11, 1964.

SURINOV, P., inzhener.

Setting up a circular saw for ripsawing logs. Sel'.stroi. 10  
no.3:19 Mr '55. (MLRA 8:6)  
(Saws)

LEVSHIN, B.V.; SURINOV, V.M.

A valuable source of the history of Soviet soil science.  
Pochvovedenie no.3:99-100 Mr '65. (MIRA 18:6)

SURINOV, Ye.N.

Guard for bronchoesophagoscopic tubes to prevent their deformation  
by the teeth. Zhur. ush., nos. i gorl. bol. 21 no.5:83-84 S-0 '61.  
(MLA 15:1)

1. Iz otorinolaringologicheskogo otdeleniya Kadomskoy rayonnoy bol'nitsy,  
lyazanskoy oblasti.  
(MEDICAL INSTRUMENTS AND APPARATUS) (BRONCHI EXPLORATION)  
(ESOPHAGUS EXPLORATION)

INTEGRAL EQUATIONS AND METHODS FOR  
CALCULATION OF RADIANT EXCHANGE IN SYSTEMS OF  
"GRAY" BODIES, SEPARATED BY DIATHERMIC MEDIA. (In  
Russian.) Yu. A. Surinov. Izvestiya Akademii Nauk  
SSSR, Otdelenie Tekhnicheskikh Nauk (Bulletin of  
the Academy of Sciences of the USSR, Section of  
Technical Sciences), July 1948, p. 941-1002.

BASIC

SURINOV, YU. A.

IA 159T79

USSR/Physics - Radiation, Thermal  
Black Bodies

Apr 50

"Analysis of Some Fundamental Concepts and Problems  
of the Theory of Thermal Radiation," Yu. A. Surinov,  
Power Eng Inst imeni G. M. Kryzhanovskiy, Acad Sci  
USSR, 24 $\frac{1}{2}$  pp

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 4

Develops and analyzes finite systems of linear  
heterogeneous algebraic and integral equations of  
radiation for calculating radiation exchange in  
systems of gray bodies. Determines concept of ef-  
fective coefficients of absorption, radiation, and  
reflection by concave gray bodies. Gives solution  
159T79

USSR/Physics - Radiation, Thermal (Contd) Apr 50  
of mixed problem on distribution of densities of  
resulting radiation in volume limited by spherical  
surface with adiabatic region. Submitted 24 Dec 49  
by Acad M. V. Kirpichev

159T79

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Sheet V A

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CIA-RDP86-00513R001653930003-1"

SURINOV, Yu. A.

PA 175T82

USSR/Physics - Heat  
Radiation

21 May 50

"Certain Basic Equations in the Field Theory of  
Heat Radiation," Yu. A. Surinov

"Dok Ak Nauk SSSR" Vol LXXII, No 3, pp 469-472

Sets up several basic differential and integral eq  
that describe heat radiation for the case of immo-  
bile system of radiating gray bodies separated by  
diathermic medium. System is assumed closed and  
bound by Lyapunov-type surface of given arbitrary  
configuration. Temp fld and opt const at surface  
of system are taken to be continuous. Submitted  
24 Mar 50 by Acad A. N. Kolmogorov.

175T82

SUPINOV, YA. A.

USSR/Engineering - Heat, Radiation

May 52

"Heat Exchange in the Radiation System of Three Gray  
Bodies," Ya. A. Surinov

"Iz Ak Nauk SSSR, Otdel Tekh Nauk" No 5, pp 724-748

On the basis of algebraic methods of phenomenological theory of radiation, developed in previous works, author solves concrete problem on heat exchange in radiating system consisting of 3 homogeneous and isotermic gray bodies sep'd by diathermic medium. Results are essential for problems on radiation heat exchange in fire chambers of boiler installations and industrial furnaces, etc. also for application of

219T38

heat radiation theory in lighting engineering and utilization of solar energy. Submitted by Acad M. V. Kirpichev 8 Jun 51.

219T38

USSR/Engineering - Heat, Radiation Sep 52

"Heat Exchange by Radiation in the Presence of an  
Absorbing and Dissipating Medium," Yu. A. Surinov

Iz Ak Nauk SSSR, Otdel Tekh Nauk, No 9, pp 1331-  
1352

Author aims at developing analytical methods of the  
phenomenological theory of thermal radiation in  
application to general case of radiation system  
composed of partially reflecting gray bodies sepa-  
rated by absorbing and dissipating medium. De-  
velops and gives analysis and solution of the  
eq of radiation energy transfer, and classifies  
types of semispherical and volumetric radiation.  
Second part of article to be published in No 10  
of this periodical. Submitted by Acad M. V.  
Kirpichev.

248r76

USSR/Engineering - Heat, Radiation

Oct 52

"Heat Exchange by Radiation in the Presence of an Absorbing and Dissipating Medium," Yu. A. Surinov

"Iz Ak Nauk, Otdel Tekh Nauk" No 10, pp 1455-1471

Continues development of integral equations for problem of exchange by radiation in systems of gray bodies separated by absorbing and dissipating medium containing heat source. Shows that analytical methods of the theory of heat radiation may be developed only on basis of integral equations of  $\int_{\text{real}}^{\text{real}}$  type differential equation can not be obtained in general form due to integral character of the vector of radiation field.

243T48

Develops systems of algebraic equations which may be used for calculation of heat exchange by radiation in fire chambers of boiler installations and industrial furnaces. First part of article was published in No 9 of "Iz Ak Nauk". Submitted by Acad M. V. Karpichev 10 Jul 51.

SURINOV, YU. A.

243T48

SURINOV, YU. A.

IA 234T46

USSR/Engineering - Heat Transfer

Mar 52

"Solution of the Mixed Problem on Heat Exchange by Radiation for A Sphere," Yu. A. Surinov  
"Dok Ak Nauk SSSR" Vol 83, No 1, pp 75-78

Discusses problem for sphere with gray surface and diathermic inner medium. Requirements are to det densities of various types of radiation at boundary and inside of sphere. Due to extremely simple configuration of system, precise soln may be obtained by elementary method based on classification of radiation types without using integral

234T46

eqs. Problem was posed in connection with engineering application of the theory of heat radiation. Submitted by Acad M. V. Kirpichev  
27 Oct 51.

234T46

IMPMV ST. A.

Functional equations of heat emission by a system of grey bodies  
separated by a diathermic medium. Dokl. Akad. Nauk SSSR f3 No. 2, 1952

VTPA, August 1952

USSR/Physics - Radiation, Heat

21 Jun 52

"Functional Equations of Thermal Radiation in the  
Presence of an Absorbing and Diffusing Medium,"  
Yu. A. Surinov

"Dok Ak Nauk SSSR" Vol LXXXIV, No 6, pp 1159-1162

Derives certain fundamental integral eqs of macroscopic (phenomenological) kinetics of radiation for the case of a system of gray bodies which are sep'd by an absorbing and dispersing medium contg sources (sinks) of heat. Such eqs are very means of analytically investigating problems of radiant exchange in the mentioned radiating system. Their

223T100

derivation is very elementary and proceeds from so-called classification of types of hemispherical and vol radiation to which also the expression for radiation brightness B refers as obtained from solving the eq of radiant energy transfer. Submitted by Acad M. V. Kirpichev 18 Apr 52.

(PA 56 no. 668:5436 53)

223T100

Fuel Abstracts  
Vol. XIV, No. 2  
Feb. 1954  
Industrial Furnaces, Kilns, etc.,  
Combustion.

1601. Zonal Calculation of Radiant Heat Exchange in Furnace Chamber. Surinov, Yu. A. (Izv. Akad. Nauk SSSR, Otdel. Tekh, Nauk (Bull. Acad. Sci. U.S.S.R., Sect. Techn. Sci.), July 1953, 992-1021). Mathematical methods are developed for calculations by zones. Examples are worked out for different conditions and types of furnace, including one for a locomotive boiler.

17/23/54

SOV/20-123-5-12/50

24(4)

AUTHOR:

Surinov, Yu. A.

TITLE:

On Some Problems of the Theory of Transfer of Radiation and  
the Radiant Heat Exchange in an Absorbing Medium (O neko-  
torykh voprosakh teorii perenosa izlucheniya i luchistogo  
teploobmena v pogloschayushchey srede)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 5, pp 813-816  
(USSR)

ABSTRACT:

The investigated radiant system consists of finite gray bodies which are separated by a moving absorbing medium which contains internal heat sources. The author first gives the initial integral equation for the density  $E_{inc}$  of the hemispherically incident radiation. This integral equation describes the fundamental and mixed variant of the problem. The existence and the definite character of the solution of the initially mentioned integral equation can be deduced from the fact that the corresponding homogeneous equation has no solution but the trivial one. An expression for  $E_{inc}(M)$  is found by solving the initially mentioned integral equation by iteration. Formulas

Card 1/3

SOV/26-125-5-10/50

On Some Problems of the Theory of Transfer of Radiation and the Radiant Heat Exchange in an Absorbing Medium

the unsteady term was not taken into account in the deduction of these formulae. This term, however, is small under usual conditions and therefore it can be neglected. In this approximation, the solutions deduced in this paper can be considered to be valid also for the unsteady problem. The corresponding energy equation is given explicitly. The author thanks Academician V. A. Ambartsumyan for his interest in this paper and for valuable advice. There are 6 Soviet references.

PRESENTED: July 4, 1958, by V. A. Ambartsumyan, Academician

SUBMITTED: June 26, 1958

Card 3/3

2b (8) PHASE I BOOK EXPLOITATION SOV/1826

Akademija Nauk SSSR. Energeticheskiy Institut

Topologicheskij i teplotroye modelirovaniye (Heat Transfer and  
Modeling of Heat Processes). Moscow, Izd-vo AM SSSR.  
319 p. Errata slip inserted. 1,000 copies printed.Ed.: M. A. Kirpichev, Academician. Ed. of Publishing  
House: D. A. Ivanova; Tech. Ed.: G. M. Shevelevko.

**PURPOSE:** The book is intended for scientists concerned with heat transfer, heat emission, and hydraulics of liquid metals, etc.

**CONTENTS:** This collection is dedicated to the memory of Academician M. V. Kirpichev who in the twenties initiated a systematic investigation of heat transfer processes and the efficiency of heat apparatus. Later he led the development of research work in this field. Two special collections devoted to works of Kirpichev's school have been published, one in 1930 (Material of the Conference on Modelirovaniye po modelirovaniyu (Material of the Conference on Modeling) and in 1951, Teoriya podobiya i modelirovaniye (Theory of Similarity and Modeling)). The present collection prepared in 1956 represents further development of the work of this school. This theory is fundamental for the analysis of many heat problems in the field of electrical and radio engineering. Great importance are given first systematic investigations of heat transfer and the hydraulics of liquid metals which as a new kind of heat carrier may be used in the various branches of modern engineering. As a result of special investigations of some cases of convective heat transfer, a dependence of the process on the kind of liquid, temperature, pressure, direction of the heat flow, and other factors, was discovered and established. On the basis of a wide generalization of experimental data, new dependable recommendations for heat analysis of engineering equipment were developed. Of no less interest is the work on heat transfer in boiling liquids and the condensation of vapors. All investigations are based on the theory of similarity, the nature of which, according to M. V. Kirpichev, is that of experimentation. Work on the theory of a regular regime applied to a system of bodies with an internal source of heat is of interest for the future.

Card 2/20

Surinov, Yu. I. On Methods of Analysis of Integral and Local Radiation Coefficients 113

This work contains a description of methods for analyzing integral and local radiation angle coefficients of bodies in two-dimensional and of some categories of three-dimensional problems. Examples of the application of these methods are given. Some new theorems on the kinematic structure of the field of radiation and the properties of radiation stresses are also described. The following personalities are mentioned: P. S. Aleksandrov and A. N. Kolmogorov in connection with the determination of fundamentals of the theory and measurement of great numbers; Academician V. A. Fok, G. L. Polya, Yu. I. Surinov, in connection with the methods of analysis of integrals. Geometric invariants (angle-coefficients of irradiation). There are 16 references.) Soviet, 2 English and 1 German.

Sverdly, A. S. Application of the Theory of Similarity to Analysis of the Phenomenon of Radiation in Furnaces and Burners 50

This article consists of a systematic review of the application of the theory of similarity to investigations of radiation in the chamber of furnaces and burners of various types. In view of the complexity of processes taking place in furnaces and burners, radiation was studied as a multi-contained problem. First attempts in the study of this problem were made by G. V. Ivanov, K. Petrunin, and S. P. Syrkin. First publications on this subject were done by G. I. Polya, I. S. Savitsky and I. S. Gurvich (1940-1941). Later works were written by I. I. Palagin, A. K. Gorrich, S. Ye. Rotnitskii, P. M. Yablokov, I. A. Kondakov, Yu. I. Surin, et al. Some abandoned problems of radiation exchange in the presence of absorbing and dispersing media. There are 18 Soviet references.

PAGE 2 BOOK EXHIBITATION 807/207

Academy of Sci. USSR. Meteorite Institute. Iu. G.M. Krishinbergs Problemy upravleniya zhomil'nykh protsessov v akademii G.M. Krishinberga (problem of Power and control of processes indicated to be studied G.M. Krishinberg) Moscow, 1953. 375 p. Rouble 500. 2,500 copies per year.	
Mos. of Publishing house; B.D. Astratius, P.V. Dubrov, A.V. Dubrova, and S.M. Myshkin; Pen, S.I., T.A. Prokofeva; Editorial Board: A.V. Vlasov, A.N. Kostylev (Chairman), V.I. Popov (Dept. Ed.), Corresponding Member, Academy of Sciences U.S.S.R.; V.I. Vozov, A.S. Prokof'yev, N.M. Strelkovskiy, K.P. Chumakov, K.B. Bagdonov, Candidate of Technical Sciences, B.K. Kuznetsov, Candidate of Technical Sciences, M.M. Lebedev, Candidate of Technical Sciences, and V.F. Bushakov.	
PURPOSE: This collection of articles is intended as a tribute to the memory of Academician G.M. Krishinberg.	
CONTENTS: The collection contains thirty articles by former students and members of the demand Academician. The articles deal with problems of a wide range of subjects in the field of power engineering. First issue of the regional development of electrical and thermal power engineering power engineering technology and the physics of combustion. No personnel are mentioned. References are given after most articles.	
Burty, Yu. A., L.A. Shul'mer. Investigation of Heat Exchange in Boiling Water. Continuous or Pure Vapors	621
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SUDAN

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S/058/60/000/03/06/030

24.5200

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 3. pp. 112-113, # 5749

AUTHOR: Surinov, Yu. A.

TITLE: An Investigation of Radiant Heat Exchange in Systems of Gray Bodies  
(Analysis and Solution of Mixed Problems in the Theory of Radiation Transfer)

PERIODICAL: V sb.: Teploenergetika. No. 1, Moscow, AN SSSR, 1959, pp. 79-130

TEXT: A systematic investigation is presented and a solution of a mixed problem on the radiant heat exchange in a radiating system is given. The system consists of boundary gray bodies separated by the diathermal as well as by the absorbing medium. As a result of the solution of a system of two integral radiation equations, each containing 2 unknown functions, expressions were obtained determining all basic characteristics of the radiation field (and, in particular, the radiation vector) on the boundary as well as in inner points of the system. Thus the solution is given of a volumetric mixed problem in the presence of a diathermal as well as an absorbing medium. The solutions obtained pertain to the general case of arbitrary configuration of the radiating system and to arbitrary

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An Investigation of Radiant Heat Exchange in Systems of Gray Bodies (Analysis  
and Solution of Mixed Problems in the Theory of Radiation Transfer)

distribution of temperatures and density of the resulting semispherical radiation over the corresponding regions on the boundary of the system. They pertain also to arbitrary temperature distributions over the volume of the absorbing medium. Both in a continuous case (in the presence of continuous distributions of temperatures, density of resulting radiation and other quantities on the boundary of the system) and in a discrete case (when the quantities mentioned are piecewise constant functions), the solution of various types of volumetric problems with mixed boundary conditions is given. These problems make it possible to determine various characteristics of radiant heat exchange not only on the boundary, but also in the volume of the system. The proof is given (for the discrete as well as for the continuous case of the distribution of temperatures and optical constants) for the possibility of reducing the solution of a mixed problem to the solution of a fundamental problem for a radiating system filled with a diathermal medium. An analogous proof can be carried out also for the case of a radiating system filled with an absorbing medium. The applications of the general results obtained to the solution of concrete problems of radiant heat exchange are considered in the work. In particular, a solution is given of a mixed problem of radiant heat exchange in a radiant system (consisting of four gray bodies), from which all known formulae

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65714

AUTHOR: Surinov, Yu.A.

SOV/139-59-2-13/30

TITLE: Solution of a Certain Mixed Problem in the Thermal  
Radiation Field Theory

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Fizika, 1959,  
Nr 2, pp 78-91 (USSR)

ABSTRACT: The problem is formulated as follows: "Consider a closed radiative system of given configuration and dimensions and consisting of grey bodies separated by a diathermic medium. It is assumed that the surface of the system is of the Lyapunov type (Ref 1 and 2) and consists of two regions  $F_1$  and  $F_2$  ( $F = F_1 + F_2$ ). On the region  $F_1$  the temperature is prescribed ( $T$ ), and on the region  $F_2$  the density of the resulting radiation  $E_r$  is prescribed. Moreover, the reflection coefficient  $R$  is also prescribed for the whole surface  $F$ . The functions  $T$ ,  $E_r$  and  $R$  are assumed to be continuous on the corresponding surfaces. It is required to find the temperature distribution on  $F_2$  and the values of  $E_r$  on  $F_1$ , and also the density fields of other forms of radiation both on the boundary of the  $F$ -system and within the volume  $V$  bounded by the closed surface  $F$ .

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SURINOV, Yu.A.

Some general problems of the theory of heat exchange. Trudy  
MTIPP 15:3-30 '60. (MIRA 16:2)  
(Heat—Transmission)

SURINOV, Yu.A.

Devising the theory of the heat radiation field. Trudy MTIPP  
15:127-176 '60. (MIRA 16:2)  
(Heat—Radiation and absorption)

SUKINOV, Yu.A.

Criterial dependences in zonal calculations of heat exchange  
in furnace chambers. Trudy MTIPP 15:201-217 '60. (MIRA 16:2)  
(Heat—Transmission) (Furnaces)

S/139/60/000/03/003/045  
E032/E314

AUTHOR: Surinov, Yu.A.

TITLE: Approximate Analytical Methods in the Theory of Radiative Heat Transfer in an Absorbing Medium

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Fizika,  
1960, Nr 3, pp 19 - 26 (USSR)

ABSTRACT: The present paper is concerned with the solution of the problem of radiative heat transfer in a radiating system consisting of a finite number  $n$  of uniform and isothermal grey bodies on the boundary of the system, separated by an absorbing medium consisting of a finite number  $m$  of uniform partially transparent constant temperature regions. It is assumed that the problem is stationary and that the temperature distribution in the system is maintained with the aid of stationary sources (sinks) distributed both inside the system and on its boundary. Explicit algebraic solutions are found and can be used for practical purposes, e.g. design of certain types of furnaces.

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SURINOV, Y. A.

"Application of the Radiative Heat Transfer Theory  
to the Modification of Design Methods of High Temperature  
industry Electrical Furnaces."

Report submitted for the Conference on Heat and Mass Transfer,  
Minsk, BSSR, June 1961.

SURINOV, Yu. A.

"On the Methods of Investigation and Calculation of Radiative Heat Transfer at Combustion."

Report submitted for the Conference on Heat and Mass Transfer,  
Minsk, BSSR, June 1961.

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3.5800*  
S/139/62/000/001/010/032  
E032/E114

AUTHOR: Surinov, Yu.A.

TITLE: Solution of the mixed problem of radiative heat transfer in the presence of an absorbing and scattering medium

PUBLICAL: Izvestiya vysshikh uchebnykh zavedeniy,  
Fizika, no.1, 1962, 58-71

TEXT: The author considers the two main steady-state mixed problems of radiative heat transfer in a closed bounded system of grey bodies separated by an absorbing and scattering medium with heat sources. A common feature of the two problems is the mixed character of the boundary conditions on the boundary surface  $F$  which is looked upon as being of the Lyapunov type. It is required to determine the density fields of the various forms of radiation both throughout the volume  $V$  of the medium and on the boundary  $F$ . It is assumed that the following quantities are given: configuration and dimensions of the bodies, optical constants within  $V$  and on  $F$ , the temperature field and the density of the resulting radiation on  $F_1$  and  $F_2$  into which the

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Solution of the mixed problem of ... S/139/62/000/001/010/032  
E032/E114

surface  $F$  is divided. In addition, the temperature field in  $V$  must be given (first problem) or the density field of the resulting radiation in  $V$  must be specified (second problem). The two mixed problems lead in general to a system of three integral equations containing three unknown functions, two of which are common to the two problems. The integral equations are derived in a very elementary fashion on the basis of the classification of radiation given in previous papers. The results obtained can be specialized to the various well-known solutions used in meteorology, astrophysics, illumination engineering and heat engineering, which are concerned with the transfer of radiative energy in a plane layer of an absorbing and scattering medium. The present results may be used as a basis for a general theory of irreversible radiative heat transfer processes in absorbing and scattering media bounded by partially reflecting bodies. Moreover, the results can be used to extend and generalize approximate analytical methods of calculation of radiative heat transfer in various technological

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Solution of the mixed problem of .. S/139/62/000/001/010/032  
E032/E114

devices filled with an absorbing and scattering medium. The treatment is entirely theoretical; no numerical results are reported.

ASSOCIATION: Moskovskiy tekhnologicheskiy institut pishchevoy promyshlennosti  
(Moscow Technological Institute of the Food Industry)

SUBMITTED: October 24, 1960

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Card 3/3

SURINOV, Yu.A.; KURBAKOV, Yu.V.

Experimental determination of certain basic characteristics of  
radiant heat exchange. Izv. vys. ucheb. zav.; chern. met. 6  
no.7:176-182 '63. (MIRA 16:9)

1. Moskovskiy institut stali i splavov i Vsesoyuznyy zaochnyy  
institut pishchevoy promyshlennosti.  
(Heat—Radiation and absorption)

SURINOV, Yu.A.

Solution of integral equations of radiation for a generalized  
three-dimensional problem. Izv. vys. ucheb. zav.; fiz. no. 3:  
78-87 '64.  
(MIRA 17:9)

1. Universitet druzhby narodov imeni Patrisa Lumumby.

SURINOV, Yu. A.

Theoretical principles of the zonal calculation of radiant heat  
exchange in industrial furnaces. Izv. vys. ucheb. zav.; chern. met.  
7 no. 5:164-169 '64. (MIRA 17:5)

1. Moskovskiy institut stali i splavov.

SURINOV, Yu.A., doktor tekhn. nauk, prof.

Theoretical principles of a zonal method for calculating radiant heat transfer in high-temperature industrial electric furnaces. Izv. vys. ucheb. zav.; energ. 7 no.8:76-82 Ag '64. (MIRA 17:12)

1. Moskovskiy ordena Lenina energeticheskiy institut.

SURINOV, Yu.A.

Integral equations in the theory of radiant transfer in an  
anisotropic scattering medium (for the generalized formulation  
of a three-dimensional problem). Teplofiz. vys. temp. 3  
no. 3:427-437 My-Je '65. (MIFI A 18:8)

1. Moskovskiy ekonomiko-statisticheskiy institut.

L 9397-66 EMT(d)/EMT(1)/ETC/EPF(n)-2/EMG(m)/T/EMP(1) IJP(c) <sup>WW</sup>  
ACC NR: AP5026574 SOURCE CODE: UR/0281/65/000/005/0131/0142

AUTHOR: Surinov, Yu. A. (Moscow)

ORG: none

TITLE: Methods for determining and numerically evaluating local characteristics  
of a radiation field

SOURCE: AN SSSR. Izvestiya. Energetika i transport, no. 5, 1965, 131-142

TOPIC TAGS: heat radiation, radiation heat exchange

ABSTRACT: A new method of an approximate numerical solution of radiation  
integral equations is set forth; the method permits numerical calculation of  
(a) local resolving (geometrical-optical) angular coefficients of radiation and  
(b) various local energy characteristics of the radiation field, both at the  
boundary F of the system and in the volume V of the filling absorbing medium.

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The integral radiation equations are approximated by finite sets of linear algebraic equations describing local (not averaged) scalar and vector characteristics of the radiation field. The new method is used to solve the problem of radiation transfer and heat exchange within a system bounded by a closed sufficiently smooth surface; the system comprises a finite number of optically homogeneous isothermic gray bodies separated by an absorbing and radiating medium; optical-parameter fields are defined at the boundary F as well as in the volume V; practical formulas for a three-body system are derived. Also, formulas are developed for the local and averaged radiation characteristics of a system containing a diathermic medium; they are claimed to be important for high-temperature electric-furnace calculations. Orig. art. has: 100 formulas.

SUB CODE: 13, 20 / SUBM DATE: 21Apr65 / ORIG REF: 009 / OTH REF: 001

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Card 2/2

REF ID: A61101

ACC NR: A10030007

SOURCE CODE: UR/0000/66/000/000/0355/0356

AUTHOR: Surinov, Yu. A.; Khlebnikov, G. F.

35

ORG: none

TITLE: Principles of the physical training of cosmonauts [Paper presented at the Conference on Problems of Space Medicine held in Moscow from 24-27 May 1966]

SOURCE: Konferentsiya po problemam kosmicheskoy meditsiny, 1966. Problemy kosmicheskoy meditsiny. (Problems of space medicine); materialy konferentsii, Moscow, 1966, 355-356

TOPIC TAGS: cosmonaut training, cosmonaut selection, physical exercise, space physiology, space psychology

ABSTRACT:

The physical training of cosmonauts is accomplished in two ways:

- 1) general physical training program to develop qualities of strength, speed, skill, endurance, and improved coordination of movements, etc;
- 2) special (mission oriented) physical training to increase the resistance of the organism to accelerations and vestibular analyzer irritation, etc.

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ACC NR: ATB036667

general physical preparedness and conditioning.

Rating the level of specialized physical preparedness and conditioning is conducted by means of sports and technical indices of strength, endurance, speed, and the ability to conduct complex coordinated exercises on special training devices. The existing system of physical training for cosmonauts has been successful for spaceflights of up to five days. [W. A. No. 22; ATD Report 66-116]

SUB CODE: 06,22 / SUBM DATE: 00May66

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